

REMARKS

Reconsideration and allowance of the above-identified application are respectfully requested. Claims 1-21 are pending. Upon entry of this Amendment, the specification has been amended and claims 3 and 20 have been amended.

Claim Rejection – 35 U.S.C. §101

In the Office Action, claim 20 is rejected under 35 U.S.C. §101 for purportedly being directed to non-statutory subject matter. The basis for rejecting claim 20 under this section, however, is unclear and believed to be improper. First, the invention recited in claim 20 accomplishes a practical application that produces a “useful, concrete and tangible result” (e.g., refining a set of signal parameters and adopting time offsets therein as estimated time offsets). *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F. 3d 1368, 1373, 47 USPQ2d 1596, 1601-2. Second, per MPEP 2106(IV)(B)(1)(a), “a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program’s functionality to be realized, and is thus *statutory* (emphasis added).” As for as the Applicants can make out from the unclear grounds stated for rejection under this section of the code, the specification does not mention the computer-readable medium. The specification has been amended to mention the computer-readable medium. No new matter is being added since the claims form a part of the original disclosure and the Preliminary Amendment including amended claim 20 was filed concurrently with the application. Accordingly, withdrawal of this basis for rejecting claim 20 is believed to be proper and is respectfully requested.

Claim Rejection – 35 U.S.C. §102(e) and 35 U.S.C. §103(a)

In the Office Action, claims 1-2, 5-15 and 17-21 are rejected under 35 U.S.C. §102(e) in view of U.S. Patent No. 6,459,402, to Tsunehara et al (hereinafter "*Tsunehara et al*"). Claims 3, 4 and 16 are rejected under 35 U.S.C. §103(a) over *Tsunehara et al* in view of U.S. Patent No. 5,883,598, to Parl et al (hereinafter "*Parl et al*").

Applicants respectfully submit that *Tsunehara et al* cannot teach or suggest the claimed invention since *Tsunehara et al* and the claimed invention relate to solutions for two completely different problems and, as such, are significantly different. *Tsunehara et al* is solely concerned with measuring the receiving timing of a signal which has first arrived at the mobile terminal in order to establish the minimum propagation delay time within a system for allowing the terminal to measure its own position. As clearly described on pages 2-8 of the present application, the present invention relates to overcoming a "hearability" problem which is not the same as determining the minimum propagation time. The minimum propagation time issue of *Tsunehara et al* is related primarily to multi-path problems, unlike a "hearability" problem associated with collision or overlap between different signals (e.g., when a mobile terminal is too close to a transmitter and signals from more distant transmitters are obscured by local signals to the extent that their time offsets cannot be measured, as described on page 2, lines 17-22 of the specification).

With regard to independent claim 1, clause (a) thereof recites "creating a terminal section of a representation of the signals **from** the plural transmitters **received by the receiver at the terminal**." Clause (b) of claim 1 then recites creating first and second sections of a representation of a signal **transmitted by** first and second transmitters and therefore in contrast with a representation of the signals from the plural transmitters **received by the receiver**. In *Tsunehara et al*, however, the process takes place in the handset and there is no use of a section of a transmitted signal as claimed but rather only of signals (e.g., incoming waves 1 and 2) received at the handset. The Office Action states that the delay profile 12 disclosed in *Tsunehara*

et al purportedly teaches the terminal section recited in clause (a) of claim 1, and that the delay profiles 10 and 11 in *Tsunehara et al* purportedly teach the first section and second section recited in claim (b) of claim 1. This is incorrect. First, as recited in clause (b) of claim 1, the first section and the second section are from **first and second ones** of the plural transmitters. By contrast, the delay profiles 10 and 11 in *Tsunehara et al* correspond to incoming waves 1 and 2 passed along respective propagation routes but from the **same** “single spread spectrum signal **transmitting station**” (see column 1, lines 61-64 of *Tsunehara et al*). Second, it is improper to use a delay profile 12 that is a combination of delay profiles 10 and 11 to reach one element of the rejected claims (e.g., terminal section of clause (a) in claim 1) and then use these same components (i.e., delay profiles 10 and 11) to teach another recited element of the rejected claim (e.g., first and second sections recited in clause (b) of claim 1).

Since *Tsunehara et al* does not teach the recited first and second sections, among other claim elements, *Tsunehara et al* cannot teach clause (c) of claim 1. For example, clause (c) of claim 1 recites using time offsets between a first section from a **first one of the transmitters** and the recited terminal section and between a second section from a **second one of the transmitters** and the recited terminal section. As stated above, however, *Tsunehara et al* uses delay profiles of signals **received** at a terminal **from the same transmitting station** for a **different application**. Thus, *Tsunehara et al* does not disclose or suggest the creation of “a model of a section of a representation of the composite signal received by the receiver **from the first and second transmitters**” as recited in clause (c) of claim 1.

Further, *Tsunehara et al* does not disclose or suggest clauses (d), (e) and (f) of claim 1 since these clauses (d), (e) and (f) each recite the claimed model. For at least the foregoing reasons, withdrawal of the 35 U.S.C. §102(e) rejection of claim 1 and its dependent claims 2, 5-13 and 21 is believed to be proper and is respectfully requested. *Tsunehara et al* employs received signals from a single transmitter to deal with multi-path issues and does not estimate time offsets between signals transmitted by plural transmitters as is incorrectly stated through the Office Action.

Further, independent claims 14, 17, 18 and amended 20 recite limitations similar to those discussed above in connection with independent claim 1. Accordingly, claims 14, 17, 18 and 20 and their corresponding dependent claims 15 and 19 are likewise believed to be allowable, and withdrawal of the 35 U.S.C. §102(e) rejection of these claims is respectfully requested.

Regarding the 35 U.S.C. §103(a) rejection of claims 3, 4 and 16, the Office Action acknowledges that *Tsunehara et al* fails to disclose that at least the first section is scaled by a first initial complex amplitude value and delayed by a first initial time delay and the second section is scaled by a second initial complex amplitude value and delayed by a second initial time delay, whereafter the scaled and delayed first and a second sections are used to build an adjustable representation or model of the combined signal from the first and second transmitters received by the receiver, the model of the combined signal from the first and second transmitters received by the receiver is subtracted from the terminal section to produce a time series containing the complex difference at each sample time, and wherein the squares of the amplitudes of the complex difference at each sample time are added to produce a single real value representative of the overall difference between the model and the target signal or set of signals, as recited in dependent claims 3 and 16.

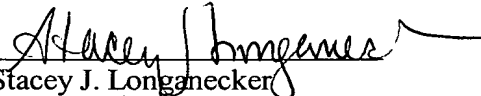
Parl et al is relied on to purportedly overcome this deficiency of *Tsunehara et al*. *Parl et al*, however, does not overcome the above-described deficiencies of *Tsunehara et al* with respect to the independent claims 1 and 14. In *Parl et al*, location of a portable unit 20 is performed at a control station 22. The section of *Parl et al* relied on in the Office Action refers to processing of signals from the portable unit 20 at base stations 12. The base stations 12 in turn send signals to the control station that allow it to determine the location of the portable unit 20 (e.g., see column 5, lines 30-40 of *Parl et al*). Thus, *Parl et al* cannot teach or suggest creation of the terminal section at the terminal, nor creation of the model and its use in adopting estimated time offsets between the recited first and section sections and the terminal section recited in claims 1 and 14, among other claimed elements. Thus, for at least

Appl. No. 10/525,829
Amdt. Dated January 22, 2007
Reply to Office Action of August 21, 2006

the foregoing reasons, withdrawal of the 35 U.S.C. §103(a) rejection of dependent claims 3, 4 and 16 is believed to be proper and is respectfully requested.

In view of the above, it is believed that the application is in condition for allowance and notice to this effect is respectfully requested. Should the Examiner have any questions, the Examiner is invited to contact the undersigned at the telephone number indicated below.

Respectfully Submitted,


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Dated: January 22, 2007